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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,749	10/29/2003	Andrezej Rokicki	P-1183	7550

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LAO, MARIALOUISA	
ART UNIT	**PAPER NUMBER**
1621	

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01/04/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/696,749	ROKICKI ET AL.	
	Examiner	Art Unit	
	M. Louisa Lao	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9,12-14 and 17-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,12-14 and 17-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. The rejection of claims 1-9,12-14 and 17-21 is maintained under 35 U.S.C. 103(a) as being unpatentable over Sarrazin et al. (US5356851, US`851).

5. The instant claims are drawn to a process for the selective hydrogenation of acetylene comprising an inorganic support, a palladium metal source and a thallium metal source; with the component attributes and ratios, therein recited.

6. US`851 teaches a catalyst (see Abstract) for the selective hydrogenation of unsaturated hydrocarbons; where said catalyst contains a group VIII metal deposited on a support previous modified by a group IIIA metal. In column 2, lines 19-21 US`851 teaches the group VIII metal to be, *inter alia*,

palladium; lines 25-26: group IIIA to be gallium and indium; lines 30-33, the support chosen, *inter alia,* silica, alumina; and lines 28-32m the molar ratio of group IIIA to group VIII preferably between 0.3 to 2. In column 2, lines 37-40, US`851 teaches that the preferred procedure is the impregnation of the support. In column 3, lines 48-53, US`851 teaches the support can be of different types, specific area, via BET method, preferably between 50 and 500 sq. m/g and total pore volume of 0.2 to 1.3 cc/gm of support. In column 6, Example 6, US`851 exemplifies the process of making the catalyst composition including the process of using it to hydrogenate butadiene to butenes.

7. US`851 differs from instant claims in the procedural step of preparing the catalyst composition, wherein the group IIIA metal impregnates the inorganic support first; including the group IIIA metal, as thallium; and recitation of a feed stream material; component attributes, including depth of impregnation.

8. At the time of the invention, one of ordinary skill in the art looking to make a catalyst composition for a selective hydrogenation of unsaturated compounds would have found it *prima facie* obvious to start with the teachings of the cited prior art reference. The teachings of the cited prior art suggests that bimetallic catalyst composition impregnated in an inorganic support has superior activity and selectivity (US`851 column 1 lines 30-36) and alternatively embodiments will be recognized by those skilled in the art and are intended to be included within the scope of the claims. It would have been obvious to a person of ordinary skill in the art at the time of the invention to employ alternate preparative steps (i.e. switch the order of impregnation of the group IIIA metal with the group VIII metal) since the activation step that follows this impregnation of both metals renders the creation of the catalyst effectuating to the same resultant catalyst product; including using alternate equivalent group IIIA metals for gallium or indium.

The employment of alternative techniques in stepwise addition and equivalent materials is within the purview of artisan through routine experimentation, as compelled by the norm of practice to develop different modes of making a catalyst as dictated by cost and availability and reach a reasonable expectation of success.

9. The recitation of weight percentages/ratios, support attributes, catalyst forms, using a furnace under a reducing gas, depths of metal impregnation onto the support are both part of the normal practice of catalyst preparation, as well as, optimization steps that are within the normal undertaking of one of ordinary skill in the art at the time of the invention and would not require any inordinate degree of experimentation.

Optimizing such processes is *prima facie* obvious because an ordinary artisan would be motivated to use known processes from the art to make the process more efficient or explore economical advantages over the other. Merely modifying the process conditions is not a patentable modification absent a showing of criticality. In re Aller, 220 F.2d 454, 105 U.S.P.Q. 233 (C.C.P.A. 1955).

Response to Arguments

10. Applicants' arguments filed 11/6/07 have been fully considered but they are not persuasive. Applicants arguments are: a) US`851 is not the composition of the catalyst; b) molar ratio of Gp IIIA element to Gp VIII material; c) the surface area of the support; d)quantity of Ga or In present in the catalyst.

11. As to Applicants' first argument, albeit US`851 is drawn to the order in which components are added to form the catalyst; the nature of the catalyst of US`851 still encompasses the instant claims.

12. As to Applicants' arguments on the molar ratio of Gp IIIA element to Gp VIII material, particularly focusing on US`851 as drawn to GpIIIA's Ga and In, rather than the instant Tl; Applicants have provided that thallium is "*significantly heavier with different properties*" than

gallium and indium; and one of ordinary skill in the art at the time of Applicants' invention would use this information to adjust the molar ratio of Gp IIIA element to Gp VIII material since Tl is a GpIIIA element as are Ga and In.

13. As to Applicants' pointed out that US`851 exemplifies the support to have a surface area of the support of 70 m^2/gm. And as the state of the art at the time of Applicants' invention, a support of less than 150 m^2/gm is a low surface area support (Blankenship et al., US6936568,US'568 column 2 lines 32-34). Applicants' arguments as to unexpected results borne out of the use of an extremely (emphasis added by Applicants) low surface area support is, therefore rendered dispositive and obvious. Further, US`851 teaches in claims 1 and 12, the surface area of the support to be 2-20 m^2/gm and 3-5 m^2/gm, respectively.

14. As to Applicants' arguments of the GpIIIA element, Ga or In present in the catalyst, this is taken in the same light as Applicants' arguments that Tl is "*significantly heavier with different properties*" than gallium and indium; and in the same token, one of ordinary skill in the art at the time of Applicants' invention would use this information to adjust the quantity of Gp IIIA element to Gp VIII material since Tl is a GpIIIA element as are Ga and In.

15. Applicants' argument *in toto* that the instant catalyst composition is different than that of the cited prior art reference, citing thereto, working examples that compare ranges of the element composition within the instant ratios and those that fall outside, clearly illustrate that the optimization technique plays a role when delineating the usable ranges of combinations of the recited components in the catalyst composition, as Applicants allege as the "*optimal range*".

16. No claims are allowed.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MLouisa Lao whose telephone number is 571-272-9930. The examiner can normally be reached on Mondays to Thursdays from 8:00am to 8:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Karl Puttlitz/

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MLouisa Lao
Examiner
Art Unit 1621

for YVONNE EYLER
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TC1600 GAU 1621